SYSTEM:OS - DIALOG OneSearch
File 155:MEDLINE(R) 1966-2003/Apr W3
(c) format only 2003 The Dialog Corp.
*File 155: Medline has been reloaded and accession numbers have changed. Please see HELP NEWS 155.
File 55:Biosis Previews(R) 1993-2003/Apr W2
(c) 2003 BIOSIS
*File 55: Alert feature enhanced for multiple files, duplicates removal, customized scheduling. See HELP ALERT.
File 34:SciSearch(R) Cited Ref Sci 1990-2003/Apr W2
(c) 2003 Inst for Sci Info
*File 34: Alert feature enhanced for multiple files, duplicates removal, customized scheduling. See HELP ALERT.
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
(c) 1998 Inst for Sci Info
File 340:CLAIMS(R)/US Patent 1950-03/Apr 17
(c) 2003 IFI/CLAIMS(R)
*File 340: The Claims U.S. Patent databases have been reloaded.
HELP NEWS340 & HELP ALERTS340 for search, display & Alert info.

```
      Set   Items   Description
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? s alpha(w)methylacyl(w)coA(2n)racemase
         1550165   ALPHA
             197   METHYLACYL
           64682   COA
            2848   RACEMASE
      S1     105   ALPHA(W)METHYLACYL(W)COA(2N)RACEMASE
? s antagonist?? or antisense
          747927   ANTAGONIST??
           62624   ANTISENSE
      S2  805637   ANTAGONIST?? OR ANTISENSE
? s s1 and s2
             105   S1
          805637   S2
      S3       1   S1 AND S2
? t s3/3,k,ab/1
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3/3,K,AB/1 (Item 1 from file: 340)
DIALOG(R)File 340:CLAIMS(R)/US Patent
(c) 2003 IFI/CLAIMS(R). All rts. reserv.

Dialog Acc No: 10268695 IFI Acc No: 2003-0013097 IFI Acc No: 2003-0003181
Document Type: C
GENES OVEREXPRESSED IN PROSTATE DISORDERS AS DIAGNOSTIC AND THERAPEUTIC TARGETS
Inventors: Hampton Garret Malcolm (US); Welsh John Barnard (US)
Assignee: Unassigned Or Assigned To Individual
Assignee Code: 68000
Publication (No,Date), Applic (No,Date):
US 20030013097 20030116 US 200254498 20020122
Publication Kind: A1
Priority Applic(No,Date): US 200254498 20020122
Provisional Applic(No,Date): US 60-263461 20010123; US 60-301639 20010628

Abstract: Disclosed are methods for diagnosing, monitoring the progression of, and treating a prostate disorder based upon genes that are differentially expressed in prostate disorders. Also disclosed are methods for identifying agents useful in the treatment of a prostate disorder, methods for monitoring the efficacy of a treatment for a prostate disorder, methods for inhibiting the proliferation of a prostate cell, and prostate-specific vectors including the promoter of these genes.

[redacted]

Non-exemplary Claims: ...2, 3 or 4 is selected from the group consisting of hepsin, prostate differentiation factor, **alpha-methylacyl-CoA racemase**, fatty acid synthase, prostate specific antigen, alternative splice form 2 and prostate specific antigen, alternative...

...2, 3 or 4 is selected from the group consisting of hepsin, prostate differentiation factor, **alpha-methylacyl-CoA racemase** and fatty acid synthase, prostate specific antigen, alternative splice form 2 and prostate specific antigen...Tables 2, 3 or 4 is selected from the group consisting hepsin, prostate differentiation factor, **alpha-methylacyl-CoA racemase**, fatty acid synthase, prostate specific antigen, alternative splice form 2 and prostate specific antigen, alternative...The method of claim 21, wherein the agent is selected from the group consisting of **antisense** nucleotides, ribozymes and double stranded RNAs...

...The method of claim 32, wherein the agent is selected from the group consisting of **antisense** nucleotides, ribozymes and double stranded RNAs...

...method of claim 33, wherein the agent comprises an isolated nucleic acid molecule comprising an **antisense** nucleotide sequence derived from at least one gene identified in Tables 2, 3 or 4...

...35. The method of claim 34, wherein **antisense** nucleotide sequences are derived from at least two genes identified in Tables 2, 3 or...

...at least one gene is selected from the group consisting of hepsin, prostate differentiation factor, **alpha-methylacyl-CoA racemase**, fatty acid synthase, prostate specific antigen, alternative splice form 2 and prostate specific antigen, alternative... 38. The method of claim 32, wherein the agent is an **antagonist** that inhibits a protein encoded by at least one gene identified in Tables 2, 3...

...40. The method of claim 38, wherein the **antagonist** is an antibody specific for the protein...

...at least one gene is selected from the group consisting of hepsin, prostate differentiation factor, **alpha-methylacyl-CoA racemase**, fatty acid synthase, prostate specific antigen, alternative splice form 2 and prostate specific antigen, alternative... 60. The nucleic acid construct of claim 59, wherein the RNA molecule is an **antisense** RNA or a ribozyme...

?

```
? s alpha(w)methylacyl(2n) racemase
         1556666  ALPHA
             202  METHYLACYL
            2865  RACEMASE
      S5     116  ALPHA(W)METHYLACYL(2N) RACEMASE
? s antisense
      S6   63085  ANTISENSE
? s s5 and s6
             116  S5
           63085  S6
      S7       1  S5 AND S6
? t s7/3,k,ab/1

 7/3,K,AB/1     (Item 1 from file: 340)
DIALOG(R)File 340:CLAIMS(R)/US Patent
(c) 2003 IFI/CLAIMS(R). All rts. reserv.

Dialog Acc No: 10268695  IFI Acc No: 2003-0013097  IFI Acc No: 2003-0003181
Document Type: C
GENES OVEREXPRESSED IN PROSTATE DISORDERS AS DIAGNOSTIC AND THERAPEUTIC
TARGETS
Inventors: Hampton Garret Malcolm (US); Welsh John Barnard (US)
Assignee: Unassigned Or Assigned To Individual
Assignee Code: 68000
Publication (No,Date), Applic (No,Date):
US 20030013097 20030116 US 200254498   20020122
Publication Kind:  A1
Priority Applic(No,Date): US 200254498   20020122
Provisional Applic(No,Date): US 60-263461   20010123; US 60-301639
20010628

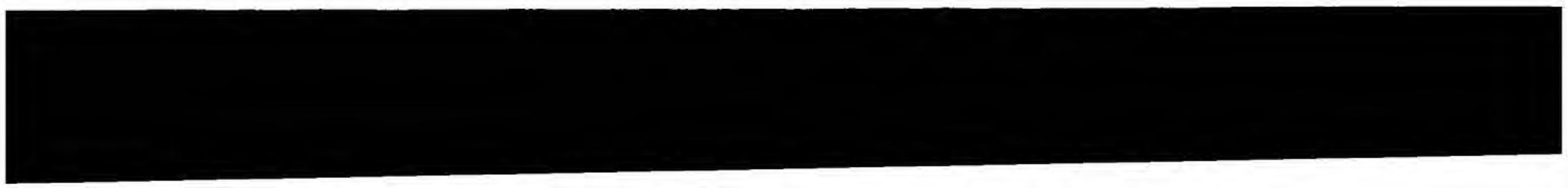
Abstract: Disclosed are methods for diagnosing, monitoring the progression
of, and treating a prostate disorder based upon genes that are
differentially expressed in prostate disorders. Also disclosed are methods
for identifying agents useful in the treatment of a prostate disorder,
methods for monitoring the efficacy of a treatment for a prostate disorder,
methods for inhibiting the proliferation of a prostate cell, and
prostate-specific vectors including the promoter of these genes.


Non-exemplary Claims: ...2, 3 or 4 is selected from the group consisting of
   hepsin, prostate differentiation factor, alpha-methylacyl
   -CoA racemase, fatty acid synthase, prostate specific antigen,
   alternative splice form 2 and prostate specific antigen, alternative...

...2, 3 or 4 is selected from the group consisting of hepsin, prostate
   differentiation factor, alpha-methylacyl-CoA racemase
   and fatty acid synthase, prostate specific antigen, alternative splice
   form 2 and prostate specific antigen...Tables 2, 3 or 4 is selected from
   the group consisting hepsin, prostate differentiation factor,
   alpha-methylacyl-CoA racemase, fatty acid synthase,
   prostate specific antigen, alternative splice form 2 and prostate
   specific antigen, alternative...The method of claim 21, wherein the
   agent is selected from the group consisting of antisense
   nucleotides, ribozymes and double stranded RNAs...

...The method of claim 32, wherein the agent is selected from the group
   consisting of antisense nucleotides, ribozymes and double stranded
   RNAs...
...method of claim 33, wherein the agent comprises an isolated nucleic acid
   molecule comprising an antisense nucleotide sequence derived from
   at least one gene identified in Tables 2, 3 or 4...

...35. The method of claim 34, wherein antisense nucleotide sequences
```



are derived from at least two genes identified in Tables 2, 3 or...

...at least one gene is selected from the group consisting of hepsin, prostate differentiation factor, alpha-methylacyl-CoA racemase, fatty acid synthase, prostate specific antigen, alternative splice form 2 and prostate specific antigen, alternative... at least one gene is selected from the group consisting of hepsin, prostate differentiation factor, alpha-methylacyl-CoA racemase, fatty acid synthase, prostate specific antigen, alternative splice form 2 and prostate specific antigen, alternative... 60. The nucleic acid construct of claim 59, wherein the RNA molecule is an antisense RNA or a ribozyme...

?

```
STEM:OS  - DIALOG OneSearch
  File 155:MEDLINE(R)  1966-2003/Apr W3
         (c) format only 2003 The Dialog Corp.
*File 155: Medline has been reloaded and accession numbers have
changed.  Please see HELP NEWS 155.
  File  55:Biosis Previews(R)  1993-2003/Apr W2
         (c) 2003 BIOSIS
*File  55: Alert feature enhanced for multiple files, duplicates
removal, customized scheduling. See HELP ALERT.
  File  34:SciSearch(R) Cited Ref Sci  1990-2003/Apr W2
         (c) 2003 Inst for Sci Info
*File  34: Alert feature enhanced for multiple files, duplicates
removal, customized scheduling. See HELP ALERT.
  File 434:SciSearch(R) Cited Ref Sci  1974-1989/Dec
         (c) 1998 Inst for Sci Info
  File 340:CLAIMS(R)/US Patent  1950-03/Apr 17
         (c) 2003 IFI/CLAIMS(R)
*File 340: The Claims U.S. Patent databases have been reloaded.
 HELP NEWS340 & HELP ALERTS340 for search, display & Alert info.

      Set  Items  Description
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? s methylacyl(w)coA(5n)racemase
            197  METHYLACYL
          64682  COA
           2848  RACEMASE
      S1     122  METHYLACYL(W)COA(5N)RACEMASE
? s prostate or testis
         145683  PROSTATE
         101995  TESTIS
      S2 242851  PROSTATE OR TESTIS
? s s1 and s2
            122  S1
         242851  S2
      S3     46  S1 AND S2
? s cancer or tumor or malignant
        1184131  CANCER
        1289382  TUMOR
         365552  MALIGNANT
      S4 2289640  CANCER OR TUMOR OR MALIGNANT
? s s3 and s4
             46  S3
        2289640  S4
      S5     42  S3 AND S4
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>>>Duplicate detection is not supported for File 340.

>>>Records from unsupported files will be retained in the RD set.
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      S6     26  RD (unique items)
? s s6 and py<=2000
Processing
Processing
Processing
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      S7      0  S6 AND PY<=2000
? s s3 and py<=2000
Processing
             46  S3
       37904422  PY<=2000
      S8      0  S3 AND PY<=2000
? t s6/3,k,ab/20-26
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6/3,K,AB/20 (Item 7 from file: 55)
DIALOG(R)File 55:Biosis Previews(R)
(c) 2003 BIOSIS. All rts. reserv.

13843697 BIOSIS NO.: 200200472518
Use of alpha-**methylacyl-COA racemase** (AMACR) in the diagnosis of **prostate cancer** (PCA) on needle biopsy.
AUTHOR: DeMarzo Angelo(a); Powell Eric L(a); Isaacs William B(a); Luo Jun (a); Wanders Ronald J; Gage Wesley R(a); Hicks Jessica(a); Epstein Jonathan I(a)
AUTHOR ADDRESS: (a)Baltimore, MD**USA
JOURNAL: Journal of Urology 167 (4 Supplement):p330 April, 2002
MEDIUM: print
CONFERENCE/MEETING: Annual Meeting of the American Urology Association, Inc. Orlando, Florida, USA May 25-30, 2002
ISSN: 0022-5347
RECORD TYPE: Citation
LANGUAGE: English
2002

Use of alpha-**methylacyl-COA racemase** (AMACR) in the diagnosis of **prostate cancer** (PCA) on needle biopsy.
...REGISTRY NUMBERS: ALPHA-**METHYLACYL-COA RACEMASE**
DESCRIPTORS:
ORGANISMS: PARTS ETC: **prostate**--
...DISEASES: **prostate cancer**--
CHEMICALS & BIOCHEMICALS: alpha-**methylacyl-CoA racemase** {AMACR...

...expression, **tumor** marker...
MISCELLANEOUS TERMS: **tumor** grade...

6/3,K,AB/21 (Item 8 from file: 55)
DIALOG(R)File 55:Biosis Previews(R)
(c) 2003 BIOSIS. All rts. reserv.

13843692 BIOSIS NO.: 200200472513
alpha-**Methylacyl-CoA racemase** (AMACR) is highly specific for **prostate cancer** as determined by expression and tissue microarray analysis.
AUTHOR: Rubin Mark A(a); Zhou Ming(a); Pienta Kenneth J(a); Shah Rajal(a); Dhanasekaran Saravana M(a); Chinnaiyan Arul M(a)
AUTHOR ADDRESS: (a)Ann Arbor, MI**USA
JOURNAL: Journal of Urology 167 (4 Supplement):p328-329 April, 2002
MEDIUM: print
CONFERENCE/MEETING: Annual Meeting of the American Urology Association, Inc. Orlando, Florida, USA May 25-30, 2002
ISSN: 0022-5347
RECORD TYPE: Citation
LANGUAGE: English
2002

alpha-**Methylacyl-CoA racemase** (AMACR) is highly specific for **prostate cancer** as determined by expression and tissue microarray analysis.
...REGISTRY NUMBERS: ALPHA-**METHYLACYL-COA RACEMASE**
DESCRIPTORS:
ORGANISMS: PARTS ETC: **prostate**--
...DISEASES: colon **cancer**--...

...lung **cancer**--...

...**prostate cancer**--

CHEMICALS & BIOCHEMICALS: alpha-**methylacyl-coA racemase** (AMACR...
MISCELLANEOUS TERMS: ...**tumor** type

6/3,K,AB/22 (Item 9 from file: 55)
DIALOG(R)File 55:Biosis Previews(R)
(c) 2003 BIOSIS. All rts. reserv.

13758159 BIOSIS NO.: 200200386980
alpha-**Methylacyl-CoA racemase** (AMACR): A highly sensitive marker for hormone responsive **prostate** neoplasia identified by cDNA expression array analysis.
AUTHOR: Kuefer Rainer(a); Zhou Ming; Dhanasekaran Saravana M; Pienta Kenneth J; Mattfeldt Torsten; Chinnaiyan Arul M; Rubin Mark A
AUTHOR ADDRESS: (a)University of Michigan School of Medicine, Ann Arbor, MI **USA
JOURNAL: Proceedings of the American Association for Cancer Research Annual Meeting 43p391-392 March, 2002
MEDIUM: print
CONFERENCE/MEETING: 93rd Annual Meeting of the American Association for Cancer Research San Francisco, California, USA April 06-10, 2002
ISSN: 0197-016X
RECORD TYPE: Citation
LANGUAGE: English
2002

alpha-**Methylacyl-CoA racemase** (AMACR): A highly sensitive marker for hormone responsive **prostate** neoplasia identified by cDNA expression array analysis.
...REGISTRY NUMBERS: ALPHA-**METHYLACYL-COA RACEMASE**
DESCRIPTORS:
...ORGANISMS: PARTS ETC: **prostate**--
DISEASES: benign **prostate** disease...

...clinically localized **prostate cancer**--...

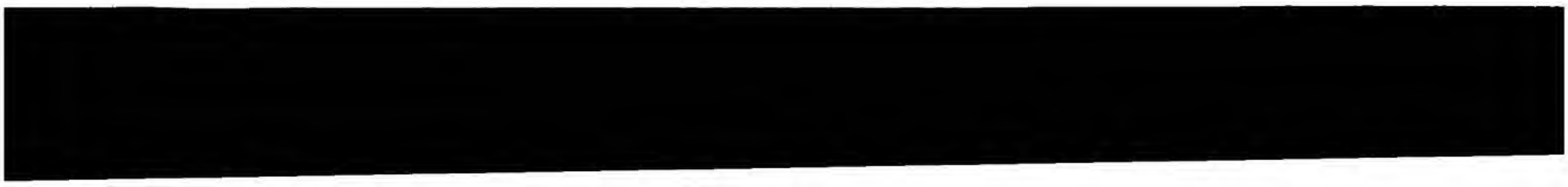
...hormone refractory **prostate cancer**--...

...hormone responsive **prostate cancer**--...

...**prostate** atrophy
CHEMICALS & BIOCHEMICALS: alpha-**methylacyl-CoA racemase** (AMACR...
MISCELLANEOUS TERMS: **tumor** stage...

6/3,K,AB/23 (Item 10 from file: 55)
DIALOG(R)File 55:Biosis Previews(R)
(c) 2003 BIOSIS. All rts. reserv.

13758156 BIOSIS NO.: 200200386977
Alpha-**methylacyl-CoA racemase** is new marker for **prostate cancer**.
AUTHOR: Luo Jun(a); Zha Shan; Gage Wesley R; Hicks Jessica; Bennett Christina J; Platz Elizabeth A; Ewing Charles M; Wanders Ronald J; Ferdinandusse Sacha; Isaacs William B; DeMarzo Angelo M
AUTHOR ADDRESS: (a)Johns Hopkins University, Baltimore, MD**USA
JOURNAL: Proceedings of the American Association for Cancer Research Annual Meeting 43p391 March, 2002
MEDIUM: print
CONFERENCE/MEETING: 93rd Annual Meeting of the American Association for Cancer Research San Francisco, California, USA April 06-10, 2002
ISSN: 0197-016X



RECORD TYPE: Citation
LANGUAGE: English
2002

Alpha-**methylacyl-CoA racemase** is new marker for **prostate cancer**.
...REGISTRY NUMBERS: ALPHA-**METHYLACYL-COA RACEMASE**
DESCRIPTORS:
ORGANISMS: PARTS ETC: **prostate** epithelium...
DISEASES: **prostate** carcinoma...
CHEMICALS & BIOCHEMICALS: alpha-**methylacyl-CoA racemase** {AMACR...

...alpha-**methylacyl-CoA racemase** mRNA {AMACR messenger RNA...

6/3,K,AB/24 (Item 11 from file: 55)
DIALOG(R)File 55:Biosis Previews(R)

13713839 BIOSIS NO.: 200200342660
alpha-**Methylacyl-CoA racemase** (AMACR) is highly specific for **prostate cancer** as determined by expression and tissue microarray analysis.
AUTHOR: Zhou M(a); Dhanasekaran S M(a); Shah R(a); Pienta K J(a); Chinnaiyan A M(a); Rubin M A(a)
AUTHOR ADDRESS: (a)University of Michigan School of Medicine, Ann Arbor, MI **USA
JOURNAL: Laboratory Investigation 82 (1):p189A January, 2002
MEDIUM: print
CONFERENCE/MEETING: Annual Meeting of the United States and Canadian Academy of Pathology Chicago, IL, USA February 23-March 01, 2002
ISSN: 0023-6837
RECORD TYPE: Citation
LANGUAGE: English
2002

alpha-**Methylacyl-CoA racemase** (AMACR) is highly specific for **prostate cancer** as determined by expression and tissue microarray analysis.
...REGISTRY NUMBERS: ALPHA-**METHYLACYL-COA RACEMASE**
DESCRIPTORS:
...ORGANISMS: PARTS ETC: **prostate**--
DISEASES: benign **prostate**--...

...colon **cancer**--...

...lung **cancer**--...

...**prostate cancer**--
CHEMICALS & BIOCHEMICALS: ...PSA {**prostate** specific antigen...

...alpha-**methylacyl-CoA racemase**--

6/3,K,AB/25 (Item 1 from file: 340)
DIALOG(R)File 340:CLAIMS(R)/US Patent

Dialog Acc No: 10268695 IFI Acc No: 2003-0013097 IFI Acc No: 2003-0003181
Document Type: C
GENES OVEREXPRESSED IN **PROSTATE** DISORDERS AS DIAGNOSTIC AND THERAPEUTIC TARGETS

[redacted]

Inventors: Hampton Garret Malcolm (US); Welsh John Barnard (US)
Assignee: Unassigned Or Assigned To Individual
Assignee Code: 68000
Publication (No,Date), Applic (No,Date):
US 20030013097 20030116 US 200254498 20020122
Publication Kind: A1
Priority Applic(No,Date): US 200254498 20020122
Provisional Applic(No,Date): US 60-263461 20010123; US 60-301639 20010628

Abstract: Disclosed are methods for diagnosing, monitoring the progression of, and treating a **prostate** disorder based upon genes that are differentially expressed in **prostate** disorders. Also disclosed are methods for identifying agents useful in the treatment of a **prostate** disorder, methods for monitoring the efficacy of a treatment for a **prostate** disorder, methods for inhibiting the proliferation of a **prostate** cell, and **prostate**-specific vectors including the promoter of these genes.

GENES OVEREXPRESSED IN **PROSTATE** DISORDERS AS DIAGNOSTIC AND THERAPEUTIC TARGETS

Abstract: Disclosed are methods for diagnosing, monitoring the progression of, and treating a **prostate** disorder based upon genes that are differentially expressed in **prostate** disorders. Also disclosed are methods for identifying agents useful in the treatment of a **prostate** disorder, methods for monitoring the efficacy of a treatment for a **prostate** disorder, methods for inhibiting the proliferation of a **prostate** cell, and **prostate**-specific vectors including the promoter of these genes.

Exemplary Claim: ...R A W I N G

1. A method for screening a subject for a **prostate** disorder or at risk of developing a **prostate** disorder, the method comprising: a) detecting a level of expression of at least one gene identified in Tables 2, 3 or 4 in a sample of **prostate** tissue obtained from the subject to provide a first value, with the proviso that if...

...at least one gene identified in Tables 2, 3 or 4 in a sample of **prostate** tissue obtained from a disease-free subject, wherein a greater expression level in the subject...

...compared to the sample from the diseasefree subject is indicative of the subject having a **prostate** disorder or at risk of developing a **prostate** disorder.

Non-exemplary Claims: ...identified in Tables 2, 3 or 4 is selected from the group consisting of hepsin, **prostate** differentiation factor, alpha-**methylacyl-CoA racemase**, fatty acid synthase, **prostate** specific antigen, alternative splice form 2 and **prostate** specific antigen, alternative splice form 3...

...4. The method of claim 1, wherein the **prostate** disorder is selected from the group consisting of localized **prostate cancer**, metastatic **prostate cancer**, prostatitis, benign prostatic hypertrophy and benign prostatic hyperplasia...

...11. A method for monitoring the progression of a **prostate** disorder in a subject having, or at risk of having, a **prostate** disorder comprising measuring a level of expression of at least one gene identified in Tables 2, 3 or 4 over time in a **prostate** tissue sample obtained from the subject with the proviso that if expression of only one...

[redacted]

...of the at least one gene over time is indicative of the progression of the **prostate** disorder in the subject...

...identified in Tables 2, 3 or 4 is selected from the group consisting of hepsin, **prostate** differentiation factor, alpha-**methylacyl-CoA racemase** and fatty acid synthase, **prostate** specific antigen, alternative splice form 2 and **prostate** specific antigen, alternative splice form 314. The method of claim 11, wherein the **prostate** disorder is selected from the group consisting of localized **prostate cancer**, metastatic **prostate cancer**, prostatitis, benign prostatic hypertrophy and benign prostatic hyperplasia...

...21. A method for identifying agents for use in the treatment of a **prostate** disorder comprising: a) contacting a sample of diseased **prostate** cells with a candidate agent; b) detecting a level of expression of at least one gene in the diseased **prostate** cells, wherein the at least one gene is identified in Tables 2, 3 or 4...
...of the candidate agent is indicative of an agent useful in the treatment of a **prostate** disorder...

...gene identified in Tables 2, 3 or 4 is selected from the group consisting hepsin, **prostate** differentiation factor, alpha-**methylacyl-CoA racemase**, fatty acid synthase, **prostate** specific antigen, alternative splice form 2 and **prostate** specific antigen, alternative splice form 3...

...24. The method of claim 21, wherein the **prostate** disorder is selected from the group consisting of localized **prostate cancer**, metastatic **prostate cancer**, prostatitis, benign prostatic hypertrophy and benign prostatic hyperplasia...32. A method of inhibiting undesired proliferation of a **prostate** cell, the method comprising administering to the cell an effective amount of an agent that...

...32, wherein the at least one gene is selected from the group consisting of hepsin, **prostate** differentiation factor, alpha-**methylacyl-CoA racemase**, fatty acid synthase, **prostate** specific antigen, alternative splice form 2 and **prostate** specific antigen, alternative splice form 3...the undesired proliferation is associated with a condition selected from the group consisting of localized **prostate cancer**, metastatic **prostate cancer**, prostatitis, benign prostatic hypertrophy and benign prostatic hyperplasia...

...44. A method for monitoring the efficacy of a treatment of a subject having a **prostate** disorder or at risk of developing a **prostate** disorder with an agent, the method comprising: a) obtaining a pre-administration sample from the...

...44, wherein the at least one gene is selected from the group consisting of hepsin, **prostate** differentiation factor, alpha-**methylacyl-CoA racemase**, fatty acid synthase, **prostate** specific antigen, alternative splice form 2 and **prostate** specific antigen, alternative splice form 3...

...47. The method of claim 44, wherein the **prostate** disorder is selected from the group consisting of localized **prostate cancer**, metastatic **prostate cancer**, prostatitis, benign prostatic hypertrophy and benign prostatic hyperplasia...of the vector, wherein the vector is adapted to replicate upon transfection into a diseased **prostate** cell...

6/3,K,AB/26 (Item 2 from file: 340)
DIALOG(R)File 340:CLAIMS(R)/US Patent

Dialog Acc No: 10179384 IFI Acc No: 2002-0123081 IFI Acc No: 2002-0031672
Document Type: C
METHODS OF USE OF ALPHA-**METHYLACYL-COA RACEMASE** IN HORMONE REFRACTORY AND METASTATIC **PROSTATE** CANCERS
Inventors: Monahan John (US); Richardson Jennifer (US)
Assignee: Unassigned Or Assigned To Individual
Assignee Code: 68000
Publication (No,Date), Applic (No,Date):
US 20020123081 20020905 US 2001967305 20010928
Publication Kind: A1
Priority Applic(No,Date): US 2001967305 20010928
Provisional Applic(No,Date): US 60-236238 20000928

Abstract: Methods for identifying patients having or at risk of developing **prostate cancer** (including hormone refractory or androgen independent **prostate cancer**) and patients having or at risk of developing a **cancer** arising from metastasis if a **prostate cancer** to another tissue, e.g., liver and lymph node, by measuring the expression or activity of alpha-**methylacyl-CoA racemase** are described. The invention also provides: methods of screening for compounds that can be used to treat **prostate cancer** (including hormone refractory or androgen independent **prostate cancer**) or metastases of **prostate cancer** by screening for compounds that modulate the expression or activity of the alpha-**methylacyl-CoA racemase** polypeptides or nucleic acids; a process for modulating (i.e., reducing) alpha-**methylacyl-CoA racemase** polypeptide or nucleic acid expression or activity, e. g., using the screened compounds; and methods for selecting patients for therapy with a compound that reduces the activity or expression of alpha-**methylacyl-CoA racemase** as well as methods for determining whether such a therapy should be continued in a patient.

METHODS OF USE OF ALPHA-**METHYLACYL-COA RACEMASE** IN HORMONE REFRACTORY AND METASTATIC **PROSTATE** CANCERS

Abstract: Methods for identifying patients having or at risk of developing **prostate cancer** (including hormone refractory or androgen independent **prostate cancer**) and patients having or at risk of developing a **cancer** arising from metastasis if a **prostate cancer** to another tissue, e.g., liver and lymph node, by measuring the expression or activity of alpha-**methylacyl-CoA racemase** are described. The invention also provides: methods of screening for compounds that can be used to treat **prostate cancer** (including hormone refractory or androgen independent **prostate cancer**) or metastases of **prostate cancer** by screening for compounds that modulate the expression or activity of the alpha-**methylacyl-CoA racemase** polypeptides or nucleic acids; a process for modulating (i.e., reducing) alpha-**methylacyl-CoA racemase** polypeptide or nucleic acid expression or activity, e. g., using the screened compounds; and methods...

...selecting patients for therapy with a compound that reduces the activity or expression of alpha-**methylacyl-CoA racemase** as well as methods for determining whether such a therapy should be continued in a...

Exemplary Claim: ...I N G

1. A method for determining whether an individual is at risk for

[redacted]

prostate cancer, comprising: (a) obtaining a test sample comprising **prostate** cells taken from the individual; (b) measuring the expression of alpha-**methylacyl-CoA racemase** in the test sample; (c) determining that the individual is subject to **prostate cancer** if the expression of alpha-**methylacyl-CoA racemase** in the sample is greater than a predetermined value.

Non-exemplary Claims: 2. A method for determining whether an individual is at risk for **prostate cancer**, comprising: (a) obtaining a test sample comprising **prostate** cells taken from the individual; (b) measuring the activity of alpha-**methylacyl-CoA racemase** in the test sample; (c) determining that the individual is subject to **prostate cancer** if the activity of alpha-**methylacyl-CoA racemase** in the sample is greater than a predetermined value...

...3. A method for determining whether a **prostate cancer** patient is at risk for metastatic **prostate cancer** to the liver, comprising: (a) obtaining a test sample comprising liver cells taken from the patient; (b) measuring the expression of alpha-**methylacyl-CoA racemase** in the test sample; (c) determining that the patient is at risk for metastatic **prostate cancer** to the liver if the expression of alpha-**methylacyl-CoA racemase** in the sample is greater than a predetermined value...

...4. A method for determining whether a **prostate cancer** patient is at risk for metastastic **prostate cancer** to the liver, comprising: (a) obtaining a test sample comprising liver cells taken from the patient; (b) measuring the activity of alpha-**methylacyl-CoA racemase** in the test sample; (c) determining that the patient is at risk for metastatic **prostate cancer** to the liver if the activity of alpha-**methylacyl-CoA racemase** in the sample is greater than a predetermined value...

...5. A method for determining whether a **prostate cancer** patient is at risk for metastatic **prostate cancer** to the lymph nodes, comprising: (a) obtaining a test sample comprising lymph node cells taken from the patient; (b) measuring the expression of alpha-**methylacyl-CoA racemase** in the test sample; (c) determining that the patient is at risk for metastatic **prostate cancer** to the lymph nodes if the expression of alpha-**methylacyl-CoA racemase** in the sample is greater than a predetermined value...

...6. A method for determining whether a **prostate cancer** patient is at risk for metastatic **prostate cancer** to the lymph nodes, comprising: (a) obtaining a test sample comprising lymph node cells taken from the patient; (b) measuring the activity of alpha-**methylacyl-CoA racemase** in the test sample; (c) determining that the patient is at risk for metastatic **prostate cancer** to the lymph node if the activity of alpha-**methylacyl -CoA racemase** in the sample is greater than a predetermined value...

...method of any of claims 1, 3 and 5 wherein the step of measuring alpha-**methylacyl-CoA racemase** expression in the test sample comprises exposing the test sample to a nucleic acid molecule...

...method of any of claims 2, 4 and 6 wherein the step of measuring alpha-**methylacyl-CoA racemase** expression in the test sample comprises exposing the test sample to an antibody that selectively binds to alpha-**methylacyl-CoA racemase**.

...

...11. A method for selecting an individual for therapy with a compound which decreases alpha-**methylacyl-CoA racemase** expression, the method comprising: (a) obtaining a test sample comprising nucleic acid molecules present in a sample of the individual's **prostate**; (b) determining the amount of alpha-**methylacyl-CoA racemase** mRNA in the test sample; (c) comparing the amount of alpha-**methylacyl-CoA racemase** mRNA in the test sample to a predetermined value; and (d) selecting the individual for therapy with a compound which decreases alpha-**methylacyl-CoA racemase** expression when the amount of alpha-**methylacyl-CoA racemase** mRNA in the test sample is greater than the predetermined value...

...12. The method of claim 11 wherein the step of determining the amount of alpha-**methylacyl-CoA racemase** mRNA in the test sample comprises exposing the test sample to a nucleic acid molecule...

...16. A method for selecting an individual for therapy with a compound which decreases alpha-**methylacyl-CoA racemase** expression, the method comprising: (a) obtaining a test sample comprising nucleic acid molecules present in a sample of the individual's liver; (b) determining the amount of alpha-**methylacyl-CoA racemase** mRNA in the test sample; (c) comparing the amount of alpha-**methylacyl-CoA racemase** mRNA in the test sample to a predetermined value; and (d) selecting the individual for therapy with a compound which decreases alpha-**methylacyl-CoA racemase** expression when the amount of alpha-**methylacyl-CoA racemase** mRNA in the test sample is greater than the predetermined value...

...17. The method of claim 16 wherein the step of determining the amount of alpha-**methylacyl-CoA racemase** mRNA in the test sample comprises exposing the test sample to a nucleic acid molecule...

...21. A method for selecting an individual for therapy with a compound which decreases alpha-**methylacyl-CoA racemase** expression, the method comprising: (a) obtaining a test sample comprising nucleic acid molecules present in a sample of the individual's lymph node; (b) determining the amount of alpha-**methylacyl-CoA racemase** mRNA in the test sample; (c) comparing the amount of alpha-**methylacyl-CoA racemase** mRNA in the test sample to a predetermined value; and (d) selecting the individual for therapy with a compound which decreases alpha-**methylacyl-CoA racemase** expression when the amount of alpha-**methylacyl-CoA racemase** mRNA in the test sample is greater than the ...22. The method of claim 21 wherein the step of determining the amount of alpha-**methylacyl-CoA racemase** mRNA in the test sample comprises exposing the test sample to a nucleic acid molecule...

...26. A method for selecting an individual for therapy with a compound which decreases alpha-**methylacyl-CoA racemase** expression, the method comprising: (a) obtaining a test sample comprising polypeptides present in sample of the individual's **prostate**; (b) determining the amount of alpha-**methylacyl-CoA racemase** polypeptide in the test sample; (c) comparing the amount of alpha-**methylacyl-CoA racemase** polypeptide in the test sample to a predetermined value; and (d) selecting the individual for therapy with a compound which decreases alpha-**methylacyl-CoA racemase** expression when the amount of alpha-**methylacyl-CoA racemase** polypeptide in the test sample is greater than the predetermined value...

[redacted]

...method of claim of claim 26 wherein the step of determining the amount of alpha-**methylacyl-CoA racemase** polypeptide in the test sample comprises exposing the test sample to a compound which binds to an alpha-**methylacyl-CoA racemase** polypeptide...

...33. A method for identifying candidate therapeutic agents for the treatment of **prostate cancer**, the method comprising: (a) obtaining a test sample comprising **prostate tumor** cells; (b) exposing the test sample to a test compound; (c) measuring the level of expression of alpha-**methylacyl-CoA racemase** mRNA in the test sample exposed to the test compound; (d) determining that the test compound is a candidate therapeutic agent for the treatment of **prostate cancer** if the level of expression of alpha-**methylacyl-CoA racemase** mRNA in the test sample exposed to the test compound is less than a predetermined...

...method of claim 33 wherein the step of measuring the level of expression of alpha-**methylacyl-CoA racemase** mRNA in the test sample comprises exposing the test sample to a nucleic acid molecule which hybridizes to a said alpha-**methylacyl-CoA racemase** mRNA under stringent conditions...

...35. A method for identifying candidate therapeutic agents for the treatment of **prostate cancer**, the method comprising: (a) obtaining a test sample comprising **prostate tumor** cells; (b) exposing the test sample to a test compound; (c) measuring the level of expression of alpha-**methylacyl-CoA racemase** polypeptide in the test sample exposed to the test compound; (d) determining that the test compound is a candidate therapeutic agent for the treatment of **prostate cancer** if the level of expression of alpha-**methylacyl-CoA racemase** polypeptide in the test sample exposed to the test compound is less than a predetermined...

...claim of claim 35 wherein the step of measuring the level of expression of alpha-**methylacyl-CoA racemase** polypeptide in the test sample comprises exposing the test sample to a compound which binds to a said alpha-**methylacyl-CoA racemase** polypeptide...

...continued, the method comprising: (a) obtaining a first sample comprising nucleic acid molecules present in **prostate tumor** cells obtained from a patient at a first time; (b) obtaining a second sample comprising nucleic acid molecules present **prostate** cells obtained from the patient at a second, later time; (c) measuring the expression of alpha-**methylacyl-CoA racemase** mRNA in the first and second samples; and (d) determining that the therapeutic treatment should be continued when the expression of alpha-**methylacyl-CoA racemase** mRNA in the second sample is less than or equal to the expression of alpha-**methylacyl-CoA racemase** mRNA than in the first sample...

...method of claim 42 wherein the step of measuring the level of expression of alpha-**methylacyl-CoA racemase** mRNA in the samples comprises exposing the samples to a nucleic acid molecule which hybridizes to a said alpha-**methylacyl-CoA racemase** mRNA under stringent conditions...

...a therapeutic treatment should be continued, the method comprising: (a) obtaining a first sample comprising **prostate tumor** cells obtained from a patient at a first time; (b) obtaining a second sample comprising **prostate tumor** cells obtained from the patient at a second, later time; (c) measuring the expression of alpha-**methylacyl-CoA racemase** polypeptide in the first and second samples; and (d) determining that the therapeutic treatment should be continued when the expression of alpha-**methylacyl-CoA racemase** mRNA in the second sample is less than or equal

to the expression of alpha-**methylacyl-CoA racemase** polypeptide than in the first sample...

...claim of claim 44 wherein the step of measuring the level of expression of alpha-**methylacyl-CoA racemase** polypeptide in the samples comprises exposing the samples to a compound which binds to an alpha-**methylacyl-CoA racemase** polypeptide...

...51. A method for treating **prostate cancer** comprising administering a compound which increases the expression or activity of alpha-**methylacyl-CoA racemase**.

...

...52. A method for identifying candidate therapeutic agents for the treatment of **prostate cancer**, the method comprising: (a) obtaining a test sample comprising **prostate tumor** cells; (b) exposing the test sample to a test compound; (c) measuring the level of activity of alpha-**methylacyl-CoA racemase** in the test sample exposed to the test compound; (d) determining that the test compound is a candidate therapeutic agent for the treatment of **prostate cancer** if the level of activity of alpha-**methylacyl-CoA racemase** mRNA in the test sample exposed to the test compound is less than a predetermined...or claim 35, further comprising, e) administering the identified candidate compound to a rodent harboring **prostate cancer** cells or cells from a **cancer** resulting from metastasis of a **prostate cancer**; and f) determining whether the identified candidate compound reduces the proliferation of the cells...

?